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AUTHOR Schum, Willard C.
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ABSTRACT

An investigation was conducted to study the effects of self-analysis on the nonverbal message (Response Patterns) communicated during student teaching. A study group and control group viewed a series of video tape segments of their own lessons. The study group utilized a systematic schedule in collecting data on their nonverbal behaviors, as opposed to a cursory or random viewing by the control group. Encouraging behaviors increased, while restricting behaviors decreased, to a greater degree for the group using the self-analysis and data-collecting techniques. (Author)

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THE EFFECTS OF TRAINING STUDENT TEACHERS IN SELF-ANALYSIS OF NONVERBAL RESPONSE PATTERNS

Willard C. Schum
State University of New York at Oswego

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Introduction

Technological advances, innovative changes, performance criteria and pressures from higher administration levels are forcing educators to evaluate present programs for teacher education. Studies have been completed that claim to have identified specific performance and behaviors identified with good teaching. Emphasis has been channeled primarily toward cognative type devices that direct attention toward analysis and categorization. The most well known devices for observation, data gathering and analysis are designed to bring focus on verbal types of interaction between students and teachers. The Flanders and OScAR instruments typify devices designed to focus on these facets of interaction.

While it can be accepted that methods of this type contribute to our understanding of teaching performance, it is felt that more than identification and analysis of verbal behavior is necessary. It is felt that the anxieties, feelings, motivations, image and perceptions are factors that have not received the attention due them in the teaching learning process.

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The motivation for this study began as the result of an eight year old's impression of his teacher's non-verbal behavior. An epidemic of headaches, upset stomach and allied ailments were a constant excuse to miss school. A heart to heart talk revealed that he did not want to go to school because his teacher was not a happy person, in fact she never smiled.

Attention to the effect of classroom climate had been advocated by Withall and he stresses the need for giving attention to the affective domain.[1] He states that learning is most likely to occur when experiences are meaningful to the learner and occurs in a nonthreatening situation. He further states that the teacher's behavior is the most important single factor in creating climate in the classroom.

A study of Ryan's Teacher Characteristics emphasizes an affective direction that makes a verbal assessment inadequate. Warmth, friendly behavior versus aloof, egocentric restrictive behavior heads the list of observational data. Furthermore the amount of interaction between student and teacher must be confined to the limitations that the teacher erects with his social climate.[2]

To further emphasize the need to study the non-verbal aspects of the teaching learning situation, a study (Evans) of eight biology teachers found that the greatest amount of behavior cataloged (34.94%) was non-verbal. He concludes by stating that one cannot realistically observe a classroom session and conclude that there is no influential nonverbal behavior.[3]

The initial inquiry one must suggest is whether there can be any accurate evaluation of nonverbal behavior. On the basis of data obtained by a variety of experimental techniques, almost all researchers have concluded that feelings can be communicated by facial expressions alone.[4] (Davitz) Studies in kinesics and linguistics at the Center for Advanced Study in the Behavioral Sciences demonstrated the interdependence of visable and audible behavior in the flow of conversation.[5] (Birdwhistell)

The identification and definition of types of nonverbal behavior by Hall[6] and the research into gesture by Halpin[7] has contributed to the fundamental understanding of the nonverbal process. A study by Davidson and Lang[8] found the existence of a positive relationship between favorable perception of teacher's feelings, academic achievement and desirable classroom behavior.

One may conclude that the importance of the nonverbal message is an important integral factor of the teaching learning process and that specific types of nonverbal communication have a positive effect on this process.

Problem

The problem that presented itself was twofold, first, a method for evaluating and affecting behavior and secondly what aspect of the nonverbal message to direct the study. The emphasis placed on verbal responses in many observational models directed interest to this part of the pupil teacher interaction. It was reasoned that if response patterns received such attention in the verbal models, then they would bear investigation in a nonverbal study.

The second part of the problem, the instrument presented a different type of issue. Birch (1970)[9] discovered in a study directed toward modifying verbal behavior, that the greatest change in modifying behavior in questioning strategies, response strategies and total teacher talk was for a group using a guided self analysis method. A further study by Woodard (1972)[10] substantiates the effectiveness of the method of self-coding and self-analysis.

The instrument selected was an adaption of the Guided Self-Analysis System for Professional Development.[11] The system employs a method for observation of one's own performance, collecting and coding of the resultant data. The objectives of the study were to determine, (a) what types of nonverbal responses were predominant and, (b) what types and patterns emerged from the self analysis.

Method

The majority of the nonverbal behaviors fell into two categories; Positive (Encouraging) and Negative (Restricting). In order to offer a continuous coding an intermediate neutral, sustaining category was included. While the sustaining category tended slightly toward the positive, an intense negative category of closure was included to afford a continum form a positive to a completely negative response. Thus the final coding scale included four categories, Closure, Restricting, Sustaining and Encouraging. These behaviors were then directed to observing communication using the eyes, mouth and general body gestures. These types were selected as the result of a preliminary study in nonverbal communication by the author.

Twenty subjects recruited for the study were all enrolled in student teaching. The group was randomly divided into two sections, providing a study and a control group. Both groups then video-taped a series of four, fifteen minute segments of prepared lessons. The study group was then trained in the self-analysis system.

Each individual viewed their tapes. The study group used the self-analysis, coding schedule, the control group merely viewed their tape. The first and final tapes of each student were additionally analyzed and coded by the researcher and another observer, trained in coding the nonverbal response patterns. The reliability of the analyzed tapes was obtained using the interclass correlations provided by Guilford.[12]

Three views of the data were provided in order to afford a comprehensive view of the study. An appraisal of the raw and median scores, indicated trends and direction of the behavioral change. A statistical analysis of variance was conducted on the four factors of the study and finally a Newman-Keuls Analysis to examine the individual behaviors. In order to establish a uniform evaluation, it was decided to use a risk or confidence level of $a = .05$.

Results

The raw scores afford an overview of the direction of the data and the change in behaviors. The highlites of the raw data indicated the following trends. The

total number of responses for the study group increased while the total decreased slightly for the control group. The scores of the individual categories also indicates changes. The closure and restricting category showed a decrease for both groups, while the sustaining category showed little change for either group. The most evident change occured in the encouraging category. Increases in all areas, (eye, mouth, general body) were noted for the study group. The control group showed decreases for eye and mouth responses and no appreciable change for general body responses.

A 2 x 2 x 4 x 3, analysis of variance was conducted on the four independent variables which were selected as important to the study.

A. Experiment vs. Control (Treatment)

B. Pretest vs. Posttest (Test)

C. Response Categories (Closure, Restricting, Sustaining and Encouraging)

D. Eye, Mouth and General Body Responses (Area)

The 2 (Treatment) x 2 (Tests) x 4 (Response Categories) x 3 (Area) analysis of variance was conducted on the results of the taped lessons analyzed and coded by the researcher.

Of the four groups the analysis showed no significant difference for the A (experiment vs. control), or the B (pretest vs. posttest). There was significant difference for the C (response categories) and the D (body responses) group. The A factor although not significant at the .05

level was significant at the .10 level. The C and D factors were significant at the .001 level.

The AB interaction was not significant at the .05 level, (it was at the .10 level). The AD and BD also were not significant. The factors interacting with the C factor (closure, restricting, sustaining, encouraging) were significant: AC, BC, ABC, CD, ACD. The exceptions were BCD and ABCD. It may be noted that many of the C factor analysis exceeded the .05 level, (AC = .01, BC = .005, ABC & CD = .001). In addition the ABD factor did not prove to be significant at the .05 level.

In order to investigate the variances in more depth, a Neuman-Keuls Analysis was performed on variables identified as significant. This function separated and allowed analysis of individual factors that were analyzed as component parts of the independent variables. All the scores in this analysis refers to mean scores.

The C response category indicated that the scores for the encouraging category was significantly larger than the scores for the other categories of closure, restricting and sustaining. The D variable of body responses (eye, mouth, body) indicated that the scores for the eye category was significantly higher than the score for the mouth category, but not significantly higher than the general body category.

The investigation of the AC (Experiment vs Control vs Response Category) presents an evaluation of another facet of the study. While ANOVA did not show significant difference for the A variable, this analysis does indicate that a portion of the A variable is significant. The experimental encouraging category does show significant gain over the control encouraging category. The control encouraging category is in turn greater than all other remaining categories. There is no significant difference between the experimental and control restricting categories.

The B variable (Pretest vs Posttest) indicated no significant difference, but in examing this variable interacting with the C variable indicates a significant variance, (.005) level). The analysis of these factors points out a single interaction that effects the high probability rating. The posttest encouraging is significantly higher than any other change. There was no significant change between the pretest and posttest of any other categories.

The CD variance (significant to the .001 level) adds support to the earlier indications of the strength of the eye responses (D) and the encouraging responses (C). The analysis showed that eye encouraging responses were significantly higher than any other responses. General body encouraging are significantly higher than the remaining categories. The mouth encouraging higher than the remaining mouth categories of closure, restricting and sustaining. The eye restricting category is also higher than the body and mouth restricting categories.

In reviewing the ABC (Experiment vs Control vs Pretest vs Posttest vs Response Categories), the experimental posttest encouraging category was significantly higher than the experimental pretest encouraging and also higher than all other interactions. No other interactions for this combination was significant.

The final category deemed necessary to adequately complete the analysis is the ACD (Experiment vs Control vs Response Categories vs Body Responses). Findings showed significantly higher scores for experimental eye encouraging than for control eye encouraging. The experimental body encouraging was higher than the control body encouraging. The only body response that was not significantly higher was the experimental mouth encouraging as compared to the control mouth encouraging category. There was no difference noted for any of the other response categories. It should be indicated that one additional significant change did occur. The analysis showed that the control eye restricting category was higher than the control mouth restricting category.

Results

The data affords an overview of the direction of the change in behaviors. The highlites of the data indicates that the total number of responses for the study group increased, while the total decreased slightly for the control group. The raw scores of the individual

categories of closure and restricting showed a decrease for both groups (study & control) while the sustaining category showed little change. The most evident change occured in the encouraging category. Increases in the encouraging categories for all areas (eye, mouth, general body responses) were noted for the study group. The control group showed decreases for eye and mouth responses and no appreciable change for the general body responses.

The data indicates a satisfactory completion of the stated objectives. Specific nonverbal communications were identified and catalogued and secondly, that change in nonverbal communication can be affected by self analysis.

The analysis indicates the many interactions of data and predominance of certain nonverbal behaviors.

The trend for the study group was toward a more positive teaching style. Their encouraging responses increased and the restricting decreased. The eyes proved to be the most used type of response and the type that was most frequently modified. Body position and movement was the second highest, but it should be noted that there are a number of related nonverbal gestures covered under this one category. Behaviors were modified and the cognative dissonance between their ideal and their desired classroom personality narrowed.

Limitations imposed by the length of time available to work with the subjects and the disbursement of the

subjects shortly after completion of the study prevented a later follow-up that could have given greater scope and depth to the study. One readily recognizes the vast breadth of nonverbal communication that should receive attention in the teaching learning process. This study approached one small segment of the nonverbal message. It is strongly felt that this investigation should be continued and expanded.

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